

## What is Claimed:

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1. A method for storing video and audio data which have been  
2 compressed according to a standard specified by the Moving Pictures Experts Group  
3 (MPEG), the method comprising the steps of:

4 formatting the video and audio data into respective program elementary  
5 stream (PES) packets;

6 recording the video and audio PES packets on a disk;

7 retrieving the video and audio PES packets from the disk;

8 storing the retrieved audio and video PES packets into respective video  
9 and audio buffers; and

10 providing the decoded audio and video PES packets from the respective  
11 audio and video buffers to an MPEG decoder.

1. A method according to claim 1, wherein the step of storing the  
2 audio and video PES packets into respective audio and video buffers includes the step of  
3 storing audio PES packets representing a sufficient amount of audio information provide  
4 the MPEG decoder with data during an interval in which no data is being stored into the  
5 buffer due to a soft error on the disk.

1. A method according to claim 2, wherein the MPEG decoder  
2 includes an internal clock signal and the method further includes the step of  
3 synchronizing the internal clock signal to the audio PES packets provided from the  
4 audio buffer.

1. A method according to claim 2, further including the steps of:  
2 monitoring the disk for soft errors;

3 when a soft error occurs, causing the MPEG decoder to repeatedly display  
4 a current frame; and

5 after the occurrence of the soft error, performing the steps of:  
6 determining if the audio and video PES packets being provided to the  
7 MPEG decoder are synchronized in time;

8                   if the packets are not synchronized, monitoring the data stored into the  
9                   buffer for encoded images that are not used to decode any other image and discarding  
10                  video PES packets corresponding to the encoded images that are not used to decode any  
11                  other image until the audio and video PES packets are synchronized in time.

1                5.    Apparatus for storing video and audio data which has been  
2                compressed according to a standard specified by the Moving Pictures Experts Group  
3                (MPEG), the method comprising:

4                a transport decoder that receives a bit-stream including the compressed  
5                audio and video data formatted as transport packets and that reformats the compressed  
6                audio and video data into respective program elementary stream (PES) packets;

7                a disk drive onto which the audio and video PES packets are recorded;

8                an audio buffer memory for retrieving and storing the audio PES packets  
9                from the disk;

10               an audio buffer memory for retrieving and storing the video PES packets  
11               from the disk; and

12               an MPEG decoder, coupled to receive the audio and video PES packets  
13               from the respective audio and video buffer memories.

1                6.    Apparatus according to claim 5, wherein the audio buffer memory  
2                has an amount of memory sufficient to provide the MPEG decoder with audio data for  
3                an amount of time in which no data is stored into the buffer due to a soft error on the  
4                disk.

1                7.    Apparatus according to claim 6, wherein the audio buffer memory  
2                has an amount of memory sufficient to hold encoded audio data representing  
3                approximately ten seconds of audio output.

1                8.    Apparatus according to claim 6 wherein:

2                the disk provides a signal indicating that a soft error has occurred;

3                the MPEG decoder, responsive to the soft error signal from the disk,  
4                repeatedly displays a current frame; and

5                the apparatus further comprises:

6                   a processor, coupled to the audio and video buffers for determining if the  
7                   audio and video PES packets being provided to the MPEG decoder are synchronized in  
8                   time, wherein, if the packets are not synchronized, the processor monitors the data  
9                   stored into the buffer for encoded images that are not used to decode any other image  
10                  and discards video PES packets corresponding to the images that are not used to decode  
11                  any other image until the audio and video PES packets are synchronized in time.

1                   9.       Apparatus according to claim 6 wherein:

2                   the video buffer includes a sufficient amount of memory to provide data to  
3                   the MPEG decoder with video data for the amount of time in which no data is stored  
4                   into the buffer due to the soft error on the disk; and

5                   the apparatus further comprises:

6                   a processor, coupled to the audio and video buffers for determining if the  
7                   audio and video PES packets being provided to the MPEG decoder are synchronized in  
8                   time, wherein, if the packets are not synchronized, the processor monitors the data  
9                   stored into the buffer for encoded images that are not used to decode any other image  
10                  and discards video PES packets corresponding to the encoded images that are not used  
11                  to decode any other image until the audio and video PES packets are synchronized in  
12                  time.

1                   10.      Apparatus according to claim 9, wherein the video buffer includes a  
2                   sufficient amount of memory to hold encoded data representing three frames of video  
3                   information.